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Reply

We want to thank Drs. Chalkias and Xanthos from the University of Athens, Greece, for their interest in our study. Certainly, the mechanisms of cardiac arrest and a possible relationship with airway obstruction caused by exercise in cold weather are of interest in our northern part of the world, where many practice winter sports. There is a high prevalence of asthma among cross-country skiers.

We have statistics of temperatures from 10 long-distance (90 km) ski races with fatalities during the race and 114 races without fatalities. The mean morning temperature in races with fatal outcomes was −11.1°C, and average day temperature was −5.4°C (range +0.8 to −11.9°C). In the nonfatal races, the mean morning temperature was −9.6°C, and the average day temperature was −4.6°C (range +5.3 to −20.5°C). The variation between races was great, and the lowest temperatures were recorded in races without fatal incidents.

From 1979 to 2012, 922 skiers were referred to a hospital emergency department. Of these, 20 skiers (2.2 %) had obstructive airway problems of asthma type. Thus, 1 of 43,000 cross-country skiers had to seek hospital care for airway obstruction.

In our original letter to the editor in the *Journal* (1), we described 20 cases of cardiac arrest. Interviews with the surviving patients and relatives of those who died did not reveal any history of obstructive airway symptoms.

In summary, our experience of cross-country skiing in Vasaloppet does not give any obvious support to airway obstruction as a major cause for morbidity during the race nor does it appear to be an important underlying mechanism for developing cardiac arrest during strenuous exercise in cold temperatures.

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